UNDERGRADUATE PROGRAM **MODULE HANDBOOK**

Module designation	Agrohydrology (SSOL3056)
Semester(s) in which the module is taught	6th semester
Person responsible for the module	Prof. Dr. Ir. Hairul Basri, M.Sc.
Language	Indonesian, English
Relation to curriculum	Compulsory module for Soil Science Department
Teaching methods	Lecture, presentation, focus group discussion
Workload (incl. contact hours, self-study hours)	✓ 100 minutes lecture and discussion per week ✓ 120 minutes structured tasks per week ✓ 120 minutes learn to be independent per week
Credit points	2 SKS = 3.2 ECTS
Required and recommended prerequisites for joining the module	SSOL1006
Module objectives/intended learning outcomes	✓ Students are able to understand the basic concepts of agrohydrology, the hydrological cycle, and its components. ✓ Students are able to analyze the processes of precipitation, infiltration and modelling, surface runoff, and groundwater, including the methods for their calculation. ✓ Students are able to identify sources of agricultural water and apply sustainable water management techniques. ✓ Students are able to analyze the water balance in agricultural land and design solutions to agrohydrological problems.
Content	The course discusses about the scope and basic concepts of basic agrohydrology concepts, the hydrological cycle and hydrological components, analyze the processes of precipitation, infiltration, surface flow, groundwater and their calculation methods, analyze the water balance of agricultural land and know agricultural water sources and their management sustainably.
Exams and assessment formats	Case method, quiz, assignment, midterm exam, final exam
Study and examination requirements	✓ Case method: 50% ✓ Quiz: 5% ✓ Assignment: 10% ✓ Midterm exam: 15% ✓ Final exam: 20%

Reading list	1. Sukman, dkk. 2019. Hidrologi. Makassar: CV. Tohar Media. 2. Tarru, R. O., dkk. 2024. Hidrologi. Yogyakarta: Deepublish Digital. 3. Asdak, C. 2023. Hidrologi dan Pengelolaan Daerah Aliran Sungai. Yogyakarta: Gadjah Mada University Press 4. Dewi, E. P., Juniatmoko, R., Arida, V., Fachruddin, F., Pribadyo, P., Sari, N., ... & Olii, M. R. (2023). HIDROLOGI TEKNIK DAN AGROKLIMATOLOGI. 5. Ngatimin, S. N. A., & SP, M. S. (2020). Agrohidrologi senandung kehidupan tentang pencemaran air. Penerbit LeutikaPrio. 6. Yousuf, A., & Singh, M. (Eds.). (2019). Watershed hydrology, management and modeling (pp. 77-97). Boca Raton, FL, USA: CRC Press. 7. Yousuf, A., & Singh, M. (Eds.). (2019). Watershed hydrology, management and modeling (pp. 77-97). Boca Raton, FL, USA: CRC Press. 8. Brutsaert, W. (2023). Hydrology. Cambridge university press.